PCT/US99/16831

304

352

448 .

## SEQUENCE LISTING JC07 Rec'd PCT/PTO 1 6 JAN 2001

<110> Chuaqui, Rodrigo F. Cole, Kristina A. Liotta, Lance A.

<120> PB39, A Gene Overexpressed in Prostate Cancer, and Uses Thereof

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| ggageteggg gecage atg gee eee acg etg caa cag geg tae egg agg ege |  |      |      |     |      |     |     |     |     |     |        |     |      | 112 |      |     |
| Met Ala Pro Thr Leu Gln Gln Ala Tyr Arg Arg Arg                   |  |      |      |     |      |     |     |     |     |     |        |     |      |     |      |     |
| 1 5 10  |  |      |      |     |      |     |     |     |     |     |        |     |      |     |      |     |
|   |  |      | •    |     | _    |     |     |     |     |     |        |     |      |     |      |     |
| tgg   | taa  | ato  | acc  | tac | acq  | act | ata | cta | gag | aac | ctc    | ttc | ttc  | tct | act  | 160 |
| E99   | £22  | Mot  | NI n | Cuc | The  | 712 | y-3 | Tan | Glu | Acn | T.e.11 | Dhe | Phe  | Ser | Ala. |     |
| Irp   | 11p  |      | Ala  | Cys | 1111 | MIA |     | пеи | Giu |     | Dea    | 25  | 1110 | 501 |      |     |
|   |  | 15   |      |     |      |     | 20  |     |     |     |        | 25  |      |     |      |     |
|   |  |      |      |     |      |     |     |     |     |     |        |     |      |     |      | 200 |
| gta   | ctc  | ctg  | ggc  | tgg | ggc  | tcc | ctg | ttg | atc | att | ctg    | aag | aac  | gag | ggc  | 208 |
| Val   | Leu  | Leu  | Gly  | Trp | Gly  | Ser | Leu | Leu | Ile | Ile | Leu    | Lys | Asn  | Glu | Gly  |     |
|   | 30   |      |      |     |      | 35  |     |     |     |     | 40     |     |      |     |      |     |
|   |  |      |      |     |      |     |     |     |     |     |        |     |      |     |      |     |
| ttc   | tat  | tcc  | agc  | acq | tac  | сса | act | gag | agc | agc | acc    | aac | acc  | acc | cag  | 256 |
|   |  |      |      |     |      |     |     |     |     |     |        |     | Thr  |     |      | •   |
| 45  | - 7 -  | 501  | DCI  |     | 50   |     |     |     |     | 55  |        |     |      | _   | 60   |     |
| 4.5   |  |      |      |     | 50   |     |     |     |     | 23  |        |     |      |     |      |     |
|   |  |      |      |     |      |     |     |     |     |     |        |     |      |     |      |     |

gat gag cag cgc agg tgg cca ggc tgt gac cag cag gac gag atg ctc Asp Glu Gln Arg Arg Trp Pro Gly Cys Asp Gln Gln Asp Glu Met Leu 65

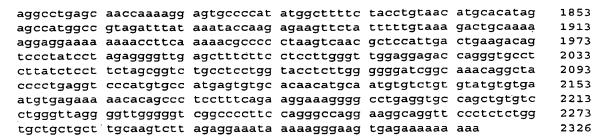
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gtt ggc agt gcc tgc ttc act gcg tcc tgc acc ctc atg gcc ctg gcc

| v   | • 0 00     | 10331 | U   |     |                   |            |     |     |     |     |            |     |     |     |     |       |
|-----|------------|-------|-----|-----|-------------------|------------|-----|-----|-----|-----|------------|-----|-----|-----|-----|-------|
| Val | Gly<br>110 | Ser   | Ala | Cys | Phe               | Thr<br>115 | Ala | Ser | Cys | Thr | Leu<br>120 | Met | Ala | Leu | Ala | -     |
|     |            | -     |     |     | gct<br>Ala<br>130 | Leu        |     | _   | _   |     |            | _   |     | _   |     | 496   |
| _   |            |       |     |     | ggc               |            | _   |     | -   |     |            |     |     | _   | -   | 544   |
|     |            | _     |     |     | aac<br>Asn        | _          | _   |     | _   |     | _          | _   |     | _   |     | 592   |
|     |            |       | _   |     | tct<br>Ser        | _          |     | _   |     |     |            |     | _   | _   |     | 640   |
|     | _          | _     |     | _   | gcc<br>Ala        |            | _   | _   |     | _   |            |     |     |     |     | 688   |
| -   | _          | _     |     |     | ttt<br>Phe<br>210 | _          |     | _   |     |     |            |     |     |     | _   | 736   |
|     |            |       |     |     | gag<br>Glu        |            |     |     |     |     |            |     |     |     |     | 784   |
| _   |            |       | _   | _   | gac<br>Asp        |            | _   |     |     |     | -          |     |     |     |     | 832   |
|     |            |       |     | _   | ggc               | _          |     |     | -   | _   | _          | _   |     | -   | -   | 880   |
|     | _          |       | _   | _   | gcc<br>Ala        |            | -   |     |     | _   | _          | _   |     |     |     | 928   |
|     | _          |       |     |     | gag<br>Glu<br>290 |            |     | -   |     |     | _          | _   | _   |     | _   | 976   |
|     |            |       |     | _   | tgg<br>Trp        | _          |     |     |     |     |            | _   |     |     | _   | 1024  |
|     |            |       |     |     | atg<br>Met        | _          | _   |     |     | _   | _          | _   |     |     |     | .1072 |
|     |            |       |     |     | gag<br>Glu        |            |     |     |     |     |            |     |     |     |     | 1120  |

| W   | O 00 | /05376            | 5   |      |       |      |      |      |      |      |      |      |      |   | PCT/US | 899/1683 |
|-----|------|-------------------|-----|------|-------|------|------|------|------|------|------|------|------|---|--------|----------|
| -   |      | 335               |     |      |       |      | 340  |      |      |      |      | 345  |      |   |        | • .      |
| _   |      | aca<br>Thr        | -   | -    |       |      |      |      | _    |      |      | -    |      |   |        | 1168     |
| _   | _    | ctt<br>Leu        |     |      | _     |      |      |      |      |      |      | _    | -    |   |        | 1216     |
|     | _    | gac<br>Asp        | -   |      | _     | _    |      |      | _    |      |      |      |      |   | _      | 1264     |
|     |      | gac<br>Asp        |     |      |       |      |      |      |      |      |      |      |      |   |        | 1312     |
|     |      | aag<br>Lys<br>415 |     |      |       | _    |      | _    | _    |      |      | _    |      |   | _      | 1360     |
| Leu |      | gtg<br>Val        |     |      |       |      |      | _    |      |      |      |      |      |   |        | 1408     |
|     |      | gtg<br>Val        |     |      |       |      |      |      |      |      |      |      |      |   |        | 1456     |
|     | _    | tgt<br>Cys        |     | _    |       |      | _    | _    |      |      |      |      |      |   |        | 1504     |
|     |      | ctg<br>Leu        |     |      | _     | _    |      |      |      | _    | _    |      |      | _ | _      | 1552     |
|     |      | cag<br>Gln<br>495 |     |      |       |      |      |      |      |      |      |      |      |   |        | 1600     |
|     |      | tgg<br>Trp        |     |      |       |      |      |      |      |      |      |      |      |   |        | 1648     |
|     |      | cct<br>Pro        |     |      |       |      |      |      | _    | _    |      |      | _    | _ |        | 1696     |
|     |      | gcc<br>Ala        |     |      |       |      |      |      |      |      |      |      |      |   |        | 1744     |
| _   |      | gca<br>Ala        | tag | actt | ctc a | agac | caag | gg a | cctg | gatg | a ca | ggca | atca |   |        | 1793     |



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Tyr Met Ala Ala Val Asn Lys Met Leu Glu Tyr Leu Val Thr Gly Gly
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                                    330
Gln Glu His Glu Thr Asn Glu Gln Gln Lys Val Ala Glu Thr Val
                                345
Gly Phe Tyr Ser Ser Val Phe Gly Ala Met Gln Leu Leu Cys Leu Leu
                            360
Thr Cys Pro Leu Ile Gly Tyr Ile Met Asp Trp Arg Ile Lys Asp Cys
                        375
Val Asp Ala Pro Thr Gln Gly Thr Val Leu Gly Asp Ala Arg Asp Gly
                                        395
Val Ala Thr Lys Ser Ile Arg Pro Arg Tyr Cys Lys Ile Gln Lys Leu
                                    410
Thr Asn Ala Ile Ser Ala Phe Thr Leu Thr Asn Leu Leu Val Gly
            420
                                425
Phe Gly Ile Thr Cys Leu Ile Asn Asn Leu His Leu Gln Phe Val Thr
                            440
Phe Val Leu His Thr Ile Val Arg Gly Phe Phe His Ser Ala Cys Gly
                        455
Ser Leu Tyr Ala Ala Val Phe Pro Ser Asn His Phe Gly Thr Leu Thr
                                        475
Gly Leu Gln Ser Leu Ile Ser Ala Val Phe Ala Leu Leu Gln Gln Pro
                485
                                    490
Leu Phe Met Ala Met Val Gly Pro Leu Lys Gly Glu Pro Phe Trp Val
                                505
Asn Leu Gly Leu Leu Phe Ser Leu Leu Gly Phe Leu Leu Pro Ser
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Tyr Leu Phe Tyr Tyr Arg Ala Arg Leu Gln Glu Tyr Ala Ala Asn
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| WU 00/05376        |                 |             | 10170                                      |              |
|--------------------|-----------------|-------------|--|--------------|
| acgcaagage ctctgc  | tece ceaettteet | gtggagcctc  | ctcaccatgg gcatgaccca                      | 1020         |
| gctgcggatc atcttc  | taca tggctgctgt | gaacaagatg  | ctggagtacc ttgtgactgg                      | 1080         |
|                    |                 |             | gcagagacag ttgggttcta                      | 1140         |
| ctectecgte ttcggg  | gcca tgcagctgtt | gtgeettete  | acctgccccc tcattggcta                      | 1200         |
|                    |                 |             | actcagggca ctgtcctcgg                      | 1260         |
|                    |                 |             | cgctactgca agatccaaaa                      | 1320         |
|                    |                 |             | ctgcttgtgg gttttggcat                      | 1380         |
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|                    |                 |             | gcagtgttcc catccaacca                      | 1500         |
|                    |                 |             | gtgttcgcct tgcttcagca                      | 1560         |
| _                  |                 |             | cccttctggg tgagagcgag                      | 1620         |
|                    |                 |             | ggggtagggc cttgtatgtg                      | 1680         |
|                    |                 |             | gtctctaatc tgcaggtttc                      | 1740<br>1792 |
| caagetgeet geett   |                 |             | cag gcg tac cgg agg<br>Gln Ala Tyr Arg Arg | 1/32         |
|                    | 1               | 5 5         | 10   |              |
| ·                  | *               | 3           | 10   |              |
| cac tag tag ata a  | cc tgc acg gct  | ata cta gag | aac ctc ttc ttc tct                        | 1840         |
| • • • • • • •      |                 |             | Asn Leu Phe Phe Ser                        |              |
| 15                 |                 | 20          | 25   |              |
|                    | •               | •           |  |              |
| get gta etc etg g  | ge tgg gge tee  | ctg ttg atc | att ctg aag aac gag                        | 1888         |
|                    |                 |             | Ile Leu Lys Asn Glu                        |              |
| 30                 | 35              |             | 40   |              |
|                    |                 |             |  |              |
| ggc ttc tat tcc a  | gc acg tgc cca  | gct gag agc | age ace aac ace ace                        | 1936         |
| Gly Phe Tyr Ser Se | er Thr Cys Pro  | Ala Glu Ser | Ser Thr Asn Thr Thr                        |              |
| 45                 | 50              |             | 55   | •            |
|                    |                 |             |  |              |
| •                  |                 |             | cag cag gac gag atg                        | 1984         |
| •                  |                 |             | Gln Gln Asp Glu Met                        |              |
| 60                 | 65              | 70          | 75   |              |
| ata asa ata aga t  | ta saa stt wat  |             | -t ·                                       | 2022         |
|                    |                 |             | ctc agc gcc acc acc<br>Leu Ser Ala Thr Thr | 2032         |
|                    | 80              | 85          | 90   |              |
|                    |                 |             |  |              |
| ctg cca ctg ggg a  | to oto ato gao  | cac ttt aac | ccc cga ccc gtg cgg                        | 2080         |
|                    |                 |             | Pro Arg Pro Val Arg                        |              |
| 95                 |                 | 100         | 105  | •            |
|                    |                 |             |  |              |
| ctg gtt ggc agt g  | cc tgc ttc act  | gcg tcc tgc | acc ctc atg gcc ctg                        | 2128         |
|                    |                 |             | Thr Leu Met Ala Leu                        |              |
| . 110              | 115             | _           | 120  |              |
|                    |                 |             |  |              |
|                    | _               |             | ata ttc ctg gcg ctg                        | 2176         |
| Ala Ser Arg Asp V  | al Glu Ala Leu  | Ser Pro Leu | Ile Phe Leu Ala Leu                        |              |
| 125                | 130             |             | 135  |              |
| •                  |                 |             |  |              |
|                    |                 |             | ttc act tca ctc acg                        | 2224         |
|                    |                 | =           | Phe Thr Ser Leu Thr                        |              |
| 140                | 145             | 150         | 155  |              |
|                    | <b></b>         |             | <b></b>                                    |              |
|                    |                 |             | tta atg gcc ctc atg                        | 2272         |
|                    |                 |             | Leu Met Ala Leu Met                        |              |
| 1                  | 60              | 165         | 170  |              |

| V   | VO 00 | /0537 | 6                 |             |     |     |     |     |     |     |     |     |     |     | PCI               | 1/0244/10921 |
|-----|-------|-------|-------------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|--------------|
|     |       |       | tac<br>Tyr<br>175 |             |     |     |     |     |     |     |     |     |     |     |                   | 2320         |
|     |       |       | gcc<br>Ala        |             |     |     |     |     |     |     |     |     |     |     |                   | 2368         |
|     |       |       | tgc<br>Cys        |             |     |     |     |     |     |     |     |     |     |     |                   | 2416         |
| _   | -     |       | cct<br>Pro        | _           |     |     |     |     |     |     |     |     |     |     |                   | 2464         |
|     |       |       | ctg<br>Leu        |             |     |     |     |     |     |     |     |     |     |     |                   | 2512         |
|     |       |       | acc<br>Thr<br>255 |             |     |     |     |     |     |     |     |     |     |     |                   | 2560         |
| _   |       | _     | ggt<br>Gly        |             |     |     |     |     |     |     |     |     |     |     |                   | 2608         |
|     |       |       | aac<br>Asn        |             |     |     |     |     |     |     |     |     |     |     |                   | 2656         |
|     |       |       | act<br>Thr        |             |     |     |     |     |     |     |     |     |     |     |                   | 2704         |
|     |       |       | atc<br>Ile        |             |     |     |     |     |     |     |     |     |     |     |                   | 2752         |
|     |       |       | ggt<br>Gly<br>335 |             |     |     |     |     |     |     |     |     |     |     |                   | 2800         |
|     |       |       | aca<br>Thr        |             |     |     |     |     |     |     |     |     |     |     |                   | 2848         |
|     | _     | _     | ctt<br>Leu        |             |     | -   |     |     |     |     |     |     |     |     |                   | 2896         |
|     |       |       | gac<br>Asp        |             |     |     |     |     |     |     |     |     |     |     | gga<br>Gly<br>395 | 2944         |
| gat | gcc   | agg   | gac               | <b>9</b> 99 | gtt | gct | acc | aaa | tcc | atc | aga | cca | cgc | tac | tgc               | 2992         |

| v   | 00  | /053/             | 0   |            |     |     |     |     |            |     |     |     |     |            | I C               | 1703: | 77/10031 |
|-----|-----|-------------------|-----|------------|-----|-----|-----|-----|------------|-----|-----|-----|-----|------------|-------------------|-------|----------|
| Asp | Ala | Arg               | Asp | Gly<br>400 | Val | Ala | Thr | Lys | Ser<br>405 | Ile | Arg | Pro | Arg | Tyr<br>410 | Cys               |       | • •      |
|     |     | caa<br>Gln        |     |            |     |     |     |     |            |     |     |     |     |            |                   |       | 3040     |
|     |     | ctt<br>Leu<br>430 |     |            |     |     |     |     |            |     |     |     |     |            |                   |       | 3088     |
|     |     | ttt<br>Phe        |     |            |     |     |     |     |            |     |     |     |     |            |                   |       | 3136     |
|     |     | gcc<br>Ala        |     |            |     |     |     |     |            |     |     |     |     |            |                   |       | 3184     |
|     |     | acg<br>Thr        |     |            |     |     |     |     |            |     |     |     |     |            |                   |       | 3232     |
|     |     | cag<br>Gln        |     |            |     |     |     |     |            |     |     |     |     |            |                   |       | 3280     |
|     |     | ttc<br>Phe<br>510 |     |            |     |     |     |     |            |     |     |     |     |            |                   |       | 3328     |
|     |     | ctg<br>Leu        |     |            |     |     |     |     | _          | _   |     | _   |     |            |                   |       | 3376     |
|     |     | tca<br>Ser        |     |            |     |     |     |     |            |     |     |     |     |            | tcc<br>Ser<br>555 |       | 3424     |
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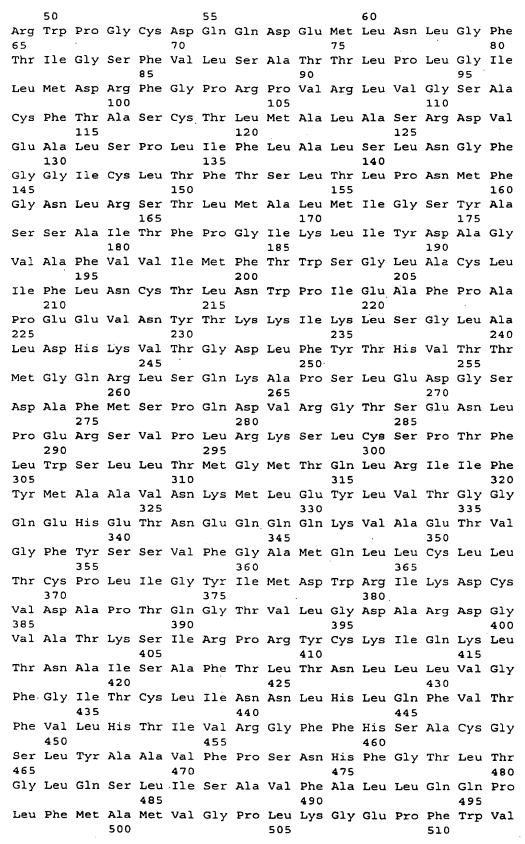
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 10
 10
 15
 15
 15
 15

 Cys
 Thr
 Ala
 Val
 Leu
 Leu
 Phe
 Phe
 Phe
 Ala
 Val
 Leu
 Leu
 Gly

 Trp
 Gly
 Ser
 Leu
 

|              | '              |              |            |            |      |       |            |            |            | 1.  | <i>,</i> |            |         |      |
|--------------|----------------|--------------|------------|------------|------|-------|------------|------------|------------|-----|----------|------------|---------|------|
| WO 00/053    | 376            |              |            |            |      |       |            |            |            |     |          | PCT/       | US99/10 | 6831 |
| Arg Ala Arg  |                | y Val        | Gly        | Gly<br>520 | Ala  | Gly   | Ala        | Thr        | Leu<br>525 | Leu | Gly      | Ala        | • -     |      |
| Gly Val Gl:  |                | s Met        | Trp<br>535 |            | His  | Pro   | Ser        | Leu<br>540 |            | Ser | Ala      | Arg        |         |      |
| Gly Thr Se   | r Glu Va       | 1 Ser<br>550 | Asn        | Leu        | Gln  | Val   | Ser<br>555 |            | Leu        | Ser | Ala      | Phe<br>560 |         |      |
|              |                |              |            |            |      |       |            |            |            |     |          | ٠          |         |      |
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| <211<br><212 | > 18<br>> DNA  |              |            |            |      |       |            |            |            | •   |          |            |         |      |
|              | > Artifi       | cial S       | Seque      | ence       |      |       |            |            |            |     |          |            |         |      |
|              |                |              | _          |            |      |       |            |            |            |     |          |            |         |      |
| <220         |                |              |            |            | _    |       |            |            | _          |     |          |            |         |      |
| <223         | > Arbitr       | ary pi       | rimer      | r A2       | from | n Sti | rataç      | gene       | , Inc      | · . |          |            |         |      |
| <400         | > 5            |              |            |            |      |       |            |            |            |     |          |            |         |      |
| aatctagagc   | tccagca        | g            |            |            |      |       |            |            | •          |     |          |            |         | 18   |
| 0            | _              |              |            |            |      |       |            |            |            |     |          |            |         |      |
| <210<br><211 |                |              |            |            |      |       |            |            |            |     |          |            |         |      |
|              | > DNA          |              |            |            |      |       |            |            |            |     |          |            |         |      |
|              | > Artifi       | cial s       | Seque      | ence       |      |       |            |            |            |     |          |            |         |      |
| •            |                |              | _          |            |      |       |            |            |            |     |          |            |         |      |
| <220         |                |              |            |            |      |       |            |            |            |     |          |            |         |      |
| <223         | > Zinc f       | inger        | -dire      | ecte       | d pr | imer  |            |            |            | ,   |          |            |         |      |
| <400         | > 6            |              |            |            |      |       |            |            |            |     |          |            |         |      |
| gtcgtcgaat   | tccacac        | aggag        | gaaaa      | agcc       |      |       |            |            |            |     |          |            |         | 29   |
|              | _              | ·            |            |            |      |       |            |            |            |     |          |            |         |      |
| <210<br><211 |                |              | •          |            |      |       |            |            |            |     |          |            |         |      |
|              | > 22<br>> DNA  |              |            |            |      |       |            |            |            |     |          |            |         |      |
|              | > Homo s       | apiens       | 5          |            |      |       |            |            |            |     |          |            |         |      |
|              |                |              |            |            |      |       |            |            |            |     |          |            | ÷       |      |
| <400         |                |              | _          |            |      |       |            |            |            |     |          |            |         |      |
| gcatgttaca   | ggtagaa        | aag co       | 3          |            |      |       |            |            |            |     |          |            |         | 22   |
| <210         | > 8            |              |            |            |      |       |            |            |            |     |          |            |         |      |
| <211         | > 21           |              |            |            | •    |       |            |            |            |     |          |            |         |      |
|              | > DNA          |              |            |            |      |       |            |            |            |     |          |            |         |      |
| <213         | > Homo s       | apiens       | S          |            |      | •     |            |            |            |     |          |            |         |      |
| <400         | > 8            |              |            |            |      |       |            |            |            |     |          |            |         |      |
| ctggcgtatc   |                | tct g        |            |            |      |       |            |            |            |     |          |            |         | 21   |
|              | _              |              |            |            |      |       |            |            |            |     |          |            |         |      |
| <210         | > 9<br>> 103   |              |            |            |      |       |            |            |            |     |          |            |         |      |
|              | > 103<br>> DNA |              |            |            |      |       |            |            |            |     |          |            |         |      |
|              | > Homo s       | apiens       | s          |            |      |       |            |            |            |     |          |            |         |      |
|              |                | -            |            |            |      |       |            |            |            |     |          |            |         |      |
| <400         |                |              |            |            |      |       |            |            | _          |     |          |            |         |      |
| acaggaatcc   | ccaggag        | itga ag      | gaata      | aagc       | a gg | aggc  | ccca       | gat        | tcac       | ctt | tagg     | gcaagg     |         | 6.0  |

<210> 10

<211> 20

<212> DNA

103

agagagaaac agagtcaagt aggtagtcat ctgcccttaa gcc

| WO 00/05370                             | 5                   |       |        |         |     | PCT/US99/16831 |
|---|---------------------|-------|--------|---------|-----|----------------|
| <213>                                   | Homo sapiens        |       |        | •       |     | ٠.             |
| <400>                                   | 1.0                 |       |        |         |     | •              |
| gaccgcatag a                            | = -                 |       |        |         |     | 20             |
| , | ·                   |       |        |         | •   | 20             |
| <210>                                   | 11                  |       |        |         |     |                |
| <211>                                   | 22                  |       |        |         |     |                |
| <212>                                   |                     |       |        |         |     |                |
| <213>                                   | Homo sapiens        |       |        |         |     |                |
| <400>                                   | 11                  |       |        |         |     |                |
| tctgcaaagt g                            | gctgagatg ag        |       | •      |         |     | 22             |
|   |                     |       |        |         |     |                |
| <210>                                   |                     |       |        |         |     |                |
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| <212>                                   |                     |       |        |         |     | •              |
| <213>                                   | Homo sapiens        |       |        |         |     |                |
| <400>                                   | 12                  |       |        |         |     |                |
|   | tttctgaac tgcacc    |       |        |         |     | 26             |
|   |                     |       |        | •       |     |                |
| <210>                                   | 13                  |       |        |         |     |                |
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| <212>                                   |                     |       |        |         |     |                |
| <213>                                   | Artificial Sequence |       |        |         |     |                |
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| <223>                                   | Epitope             |       |        |         |     |                |
|   |                     |       |        |         |     |                |
| <400>                                   |                     |       |        |         |     |                |
|   | Glu Gln Arg Arg Trp |       |        | Asp Gln | Gln |                |
| 1                                       | 5                   | 1     | .0     |         |     |                |
| <210>                                   | 1.4                 |       |        |         |     |                |
| <211>                                   |                     |       |        |         |     |                |
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|   | Artificial Sequence |       |        |         |     |                |
|   |                     |       |        |         |     |                |
| <220>                                   |                     |       |        |         |     |                |
| <223>                                   | Epitope             |       |        |         |     |                |
|   |                     | •     |        |         |     |                |
| <400>                                   |                     |       |        |         |     |                |
|   | Pro Glu Arg Ser Val |       |        | Lys Ser | Leu |                |
| 1                                       | 5                   | 1     | .0     |         |     |                |
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| <211>                                   |                     |       |        |         |     |                |
| <211>                                   |                     |       |        |         |     |                |
|   | Artificial Sequence | ÷     |        |         |     |                |
|   |                     |       |        |         |     |                |
| <220>                                   |                     |       |        |         |     |                |
| <223>                                   | Epitope             |       |        |         |     |                |
| <400>                                   | 15                  |       |        |         |     |                |
|   | Tyr Cys Lys Ile Gln | Lys L | eu Thr | Asn Ala |     |                |
| 1                                       | 5                   |       | .0     |         |     |                |

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<220>

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<400> 16

Ala Asn Gly Met Gly Pro Leu Lys Val Leu Ser Gly Ser 1 5 10

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<220>

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<400> 17

Ala Arg Gly Thr Ser Glu Val Ser Asn Leu Gln Val Ser